

ABSTRACT

A method of preparing a xylene product is carried out in a reactor containing a phosphorus-treated ZSM-5-type zeolite catalyst. The method includes initiating a unique start-up of a toluene methylation reaction by contacting the catalyst with a toluene/methanol feed and a cofeed of hydrogen introduced into the reactor at certain start-up conditions. By utilizing the start-up conditions high selectivity for p-xylene can be achieved while providing stable catalytic activity over extended periods.